
थ्रोइंग हैमर्स — विशिष्टि
(दूसरा पुनरीक्षण)

Throwing Hammers — Specification
(Second Revision)

ICS 97.220.40

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Price Group 2

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Sports Goods Sectional Committee had been approved by the Production and General Engineering Division Council.

This standard was first published in 1967 and subsequently revised in 1988. The first revision was undertaken to align the standard with the latest rules of the International Association of Athletics Federations, as desired by the Consultative Committee of Parliament for the Department of Youth Affairs and Sports.

The hammer throw is one of the four throwing events in regular track and field competitions, along with the discus throw, shot put and javelin.

The “hammer” used in this sport is not like any of the tools also called by that name. It consists of a metal ball attached by a steel wire to a grip. The size of the ball varies between men’s and women’s competitions.

This revision has been taken up to align with the latest technological developments and international practices. In this revision, the following major changes have been made:

- a) The hammers are classified based on age group;
- b) Weight, dimensions and construction requirement of the hammer have been updated; and
- c) New tests namely handle deformation test and breaking strength of handle have been added.

The composition of the Committee responsible for formulation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’.

Indian Standard

THROWING HAMMERS — SPECIFICATION

(Second Revision)

1 SCOPE

This standard prescribes requirements for dimensions, material and construction for throwing hammer for competition.

2 TYPES

Based on the requirements of different age group, throwing hammers are classified into following types:

- a) WU18 — It is recommended to use for women under 18 years of age;
- b) WU20/SW — It is recommended to use for women under 20 years of age or senior women;
- c) BU18 — It is recommended to use for boy under 18 years of age;
- d) BU20 — It is recommended to use for boy under 20 years of age; and
- e) SM — It is recommended to use for senior men.

3 MANUFACTURE, WORKMANSHIP AND FINISH

3.1 The hammers shall consist of three parts, namely, a metal head, a wire, and a grip.

3.2 The head shall be completely spherical in shape. If a filling is used, this shall be inserted in such a manner that it is immovable and the centre of gravity of the head shall be not more than 6 mm from the centre of the sphere.

3.3 The wire connecting head and handle shall be a single, unbroken and straight length of spring steel wire not less than 3 mm in diameter and shall be such that it cannot stretched appreciably while the hammer is being thrown. The wire may be looped at one or both ends as a means of attachment. The wire shall be connected to the head by means of a swivel which shall be either plain or ball bearing.

3.4 The handle shall have a symmetric design and may have a curved or straight grip and/or brace. It shall be rigid, without hinged joints of any kind, and so made that it shall not stretch appreciably while being thrown. It shall be attached to the wire in such a manner that it cannot be turned within the loop of the wire to increase the overall length of the hammer. The handle shall be connected to the wire by means of a loop, and swivel shall not be used for this connection.

3.5 All the parts shall be so constructed that these do not have any protruding edges.

4 REQUIREMENTS

4.1 Shape and Dimensions

Typical shape of the hammers is shown in Fig. 1. The shape and dimensions shall conform to those given in Table 1 and Fig. 1.

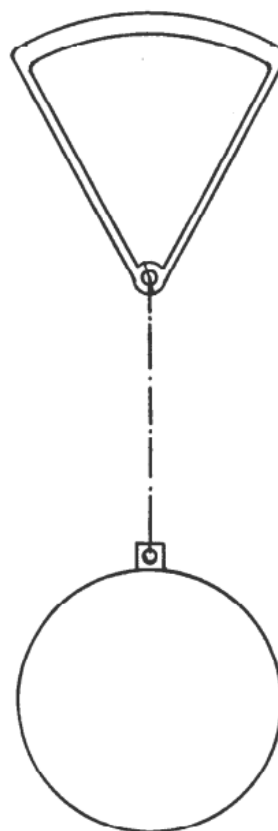


FIG. 1 THROWING HAMMER, TYPICAL

4.2 Materials

4.2.1 Head

The head of the hammer shall be made of solid iron, brass or any other metal not softer than brass, or a shell of such metal, filled with lead or other solid material.

4.2.2 Wire

The wire connecting head and handle shall be made of spring steel wire, not less than 3 mm in diameter.

Table 1 Requirements for different types of Throwing Hammers
(Clauses 4.1 and 4.3)

Sl No.	Characteristics	WU18	WU20/SW	BU18	BU20	SM
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	Minimum weight for admission to competition and acceptance of a record, kg	3.000	4.000	5.000	6.000	7.260
ii)	Length of hammer measured from the inside of the grip, mm, <i>Max</i>	1195	1195	1200	1215	1215
iii)	Diameter of head, mm	85 to 100	95 to 110	100 to 120	105 to 125	110 to 130

4.2.3 Handle

The handle of the hammer can be made of any suitable material as agreed between manufacture and purchaser. A generic figure of handle is shown in Fig. 2 for reference.

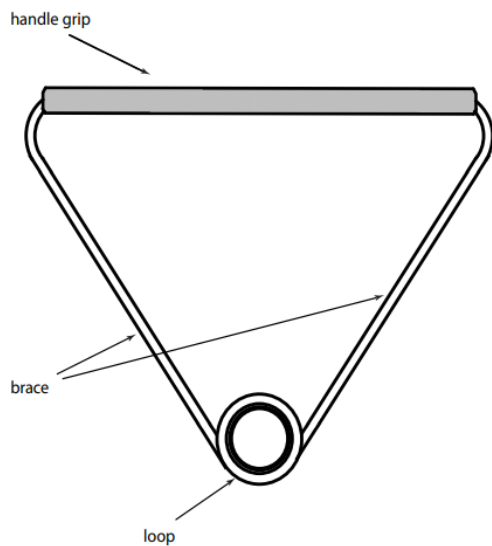


FIG. 2 GENERIC HAMMER HANDLE

4.3 Weight

Weight of different type of hammers including the weight of head, wire and grip shall be as given in Table 1.

5 TEST

5.1 Test for Centre of Gravity of Head

The head shall balance on a horizontal sharp-edged circular orifice, 12 mm in diameter, in different positions as shown in Fig. 3.

5.2 Handle Deformation Test

The total deformation of the handle under a tension load of 3.8 kN shall not exceed 3 mm.

5.3 Breaking Strength of Handle

The minimum breaking strength of handle shall be 8 kN.

6 PACKING AND MARKING

6.1 Packing

The hammers shall be packed as agreed to between the purchaser and the supplier.

6.2 Marking

6.2.1 Each hammer/Package shall be marked with the following information:

- The manufacturer's name;
- Weight;
- Type of hammer; and
- Initials or recognized trademark.

6.2.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity

assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and *the Rules and Regulations* framed thereunder, and the products may be marked with the Standard Mark.

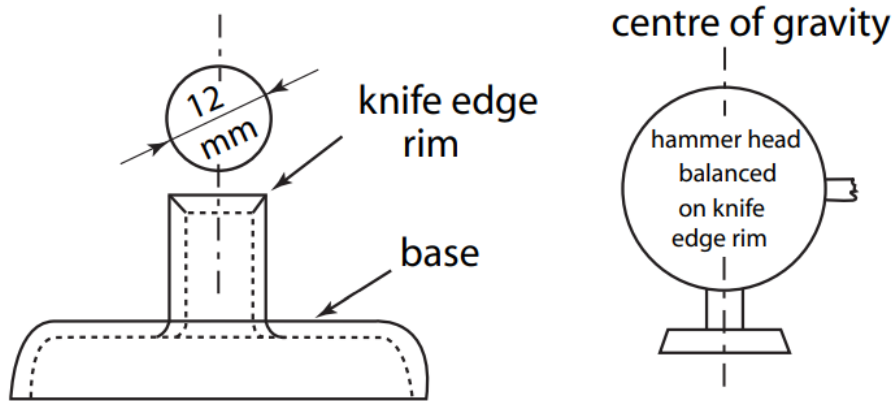


FIG. 3 SUGGESTED APPARATUS FOR TESTING CENTRE OF GRAVITY

ANNEX A

(Foreword)

COMMITTEE COMPOSITION

Sports Goods Sectional Committee, PGD 41

<i>Organization</i>	<i>Representative(s)</i>
Sports Goods Export Promotion Council	SHRI TARUN DEWAN (Chairman)
B D Mahajan and Sons Pvt Ltd, Meerut	SHRI RAKESH MAHAJAN
Bhalla International, Meerut	SHRI ASHOK BHALLA
Central Institute of Plastics Engineering and Technology (CIPET), Murthal	DR S. N. YADAV
Consumer Association of India (CONCERT), Chennai	SHRIMATI NIRMALA DESIKAN SHRI M. R. KRISHNAN (<i>Alternate</i>)
COSCO (India) Pvt Ltd, Gurugram	SHRI NARINDER JAIN SHRI MANISH JAIN (<i>Alternate</i>)
Director Equipment Sports Authority of India, New Delhi	DR RAJIV
Freewill Sports (Pvt) Ltd, Jalandhar	SHRI RAJESH KHARBANDA
Government e-Marketplace (GeM)	SHRI N. K. MALHOTRA, ASSISTANT DIRECTOR
Gymnastic Federation	SHRI RIAZ BHATI
Hockey India	COMMANDER R. K. SRIVASTAVA
Indian Rubber Manufacturers Research Association, Mumbai	DR K. RAJKUMAR
NELCO (India) Pvt Ltd, Meerut	SHRI KAMAL ANAND
Office of Development Commissioner, Delhi	SHRI S. N. TRIPATHI
Process Cum Product Development Centre, Meerut	SHRI SUNIL GUPTA SHRI V. K. SINGH (<i>Alternate</i>)
Premier Leg guard works, Meerut	SHRI SUMNESH AGARWAL
Sports Goods Manufacturing Industry in India (SGMEA), Meerut	SHRI PUNEET ANAND ALOK MISHRA (<i>Alternate</i>)
Shriram Institute for Industrial Research, Delhi	DR RAJESH KUMAR RAINA
Sports Goods Manufacturers and Exporters Association, Jalandhar	SHRI VIPIN MAHAJAN
Stag International Sports, Meerut	SHRI RAKESH KOHLI SHRI VIVEK KOHLI (<i>Alternate</i>)
The Sports Goods Export Promotion Council, New Delhi	SHRI JAGJIT SINGH
Universal Sports, Jalandhar	SHRI ANURAG CHADHA
VATS Sports, Meerut	SHRI LOKESH VATS
VOICE, Delhi	SHRI M. A. U. KHAN
BIS Directorate General	SHRI NAVINDRA GAUTAM, SCIENTIST 'E' AND HEAD (PGD), [REPRESENTING DIRECTOR GENERAL (<i>Ex-officio</i>)]

*Member Secretary*SHRI AJAY KUMAR
SCIENTIST 'B' (PGD), BIS

Bureau of Indian Standards

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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